

# Claims

[c1] What is claimed is:

1. A method for transforming a digital voltage signal into an analog voltage signal to reduce spikes by utilizing a digital-to-analog converter, the digital-to-analog converter comprising a plurality of digit circuits, wherein each digit circuit respectively corresponds to a bit of the digital voltage signal, the method comprising:  
receiving the digital voltage signal;  
setting the digit circuit corresponding to a predetermined bit of the digital voltage signal closest to an output module; and  
outputting an analog voltage signal corresponding to the digital voltage signal;  
wherein the predetermined bit of the digital voltage signal is the bit with least signal variation among the bits of the digital voltage signal.

[c2] 2. The method of claim 1, wherein each digit circuit comprises a plurality of transistors.

[c3] 3. The method of claim 1, wherein the digital-to-analog converter is an R-string digital-to-analog converter.

- [c4] 4. The method of claim 1, wherein the output module of the digital-to-analog converter comprises a loading resistor for impedance matching.
- [c5] 5. A digital-to-analog converter for transforming a digital voltage signal into an analog voltage signal, the digital-to-analog converter comprising:
  - a receiving circuit for receiving the digital voltage signal;
  - a plurality of digit circuits electrically connected to the receiving circuit for transforming the digital voltage signal into an analog voltage signal corresponding to the digital voltage signal, each digit circuit corresponding to a bit of the digital voltage signal; and
  - an output module electrically connected to a digit circuit that corresponds to a bit with least signal variation among the bits of the digital voltage signal for outputting the transformed analog voltage signal, the output module comprising a loading resistor for impedance matching.
- [c6] 6. The digital-to-analog converter of claim 5, wherein each digit circuit comprises a plurality of transistors.
- [c7] 7. The digital-to-analog converter of claim 5 being an R-string digital-to-analog converter.
- [c8] 8. The digital-to-analog converter of claim 5 further

comprising a reference circuit electrically connected to the plurality of digit circuits for providing a reference voltage for the plurality of digit circuits.